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REMARKS

Status of the Application:

Claims 1–25 are the claims of record of the application. Claims 1–10, 14–21, 24 and 25 have been rejected and claims 11–13, 22 and 23 have been objected to and would be allowable if written in independent form.

Formal Drawings

Formal drawings are being separately sent to replace the drawings submitted. No amendment to the drawings is being made. For the convenience of the Examiner, the formal drawings are included herein in the Appendix. Each sheet is annotated as "Replacement Sheet."

Amendment to the Specification

Applicants have amended the specification to deal with Examiner's objection, and also to provide consistency with one of the claim amendments. No new matter is being added.

Specification Objection

In paragraph 2 of the office action, the examiner objected to the disclosure because of the following informalities: the specification fails to explain the operation of Figure 3C in the Detailed Description of the Specification.

Applicants have amended the specification by adding that Fig. 3C shows a representation of the complete frequency domain, with the values at the negative frequencies being the complex conjugate of the values at the corresponding positive frequencies. No new matter is being added.

Amendment to the Claims:

Applicant has amended the claims to overcome the claim objections. Applicant also has amended the claim to overcome the rejections under 35 USC 112, second paragraph.

Claim Objections

In paragraph 3 of the office action, claims 1–8, 11–13, 17–19 and 22–25 were objected to because of some informalities.

Applicant thanks the Examiner for pointing these out. The claims are being amended to make the changes suggested by the Examiner.

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Claim Rejections -35 USC § 112 Second Paragraph (Indefiniteness)

In paragraph 5 of the office action, claims 1–10, 14–21 and 24–25 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, terms in claim 1, claim 2, claim 3, claim 5, claim 9, claim 11, claims 18–20, and claim 24 were asserted to render the claims indefinite.

The term “IF” was asserted to be undefined. IF is well known to those in the art, and commonly used to mean intermediate frequency. Furthermore, the specification explicitly defines this term to mean intermediate frequency. See for example page 4, line 5. Therefore, the Applicant does not believe an amendment is necessary. However, purely to advance prosecution, and not for reasons of patentability or to reduce scope, Applicant has amended the claims to define IF to mean intermediate frequency.

Claim 2 is now cancelled. Any subject matter added to claim 1 does not have the problems described.

With respect to claim 3, Applicant has added to claim 1 words to indicate that the time domain samples of the OFDM symbol form a time domain burst.

Applicant has also added to claim 1 words to indicate that the time domain samples of the OFDM symbol form a time domain burst. Applicant also has amended claim 15 to indicate that the frequency domain symbol is a frequency domain OFDM symbol.

This overcomes all of the Examiner’s rejections of the claims under 35 USC 112, second paragraph.

Claim Rejections -35 USC § 102 and 35 USC § 103

In paragraph 7 of the office action, claims 1–4, 9–10, 18 and 20–21 were rejected under 35 USC 102(e) as being anticipated by Jeong et al. (U.S. 2002/0080887 A1). In paragraph 9 of the Office Action, claims 5–8, 14–17, 19, and 24–25 were rejected under 35 USC 103(a) as being unpatentable over Matheus et al (US 2006/0021715A1) in view of Harada et al. (US 5,774,450).

These rejections are now moot, because the Applicant has amended the claims to add material that was deemed by the Examiner to be allowable subject matter. For example, the limitations of claim 11 have been added to claim 1. Similar limitations, but in the reverse direction have been added to claim 5.

In particular, claim 1 now has the limitation that the transform block includes a preprocessor to map the series of N values to a first series of N/2 values using a first mapping function, an N/2-point transformer to perform an inverse discrete Fourier transform on said first N/2-point complex-valued series to obtain a second N/2-point complex-valued series; and a postprocessor to map real and imaginary

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components of said second $N/2$ -point complex-valued series to the set of real valued time domain samples using a second mapping function.

Claims 9, 18, and 20 have had similar limitations added.

Claim 5 now has the limitation that the series of N received time domain samples are real-valued, and that the transform block includes a preprocessor to map the series of N received time domain samples to a first series of $N/2$ values using a first mapping function, an $N/2$ -point transformer to perform an FFT said first $N/2$ -point complex-valued series to obtain a second $N/2$ -point set of values; and a postprocessor to map the $N/2$ -point set of values to a total of N real and imaginary valued subcarriers at a corresponding set of N frequency subchannels, including the selected subcarriers to be shifted to baseband, the postprocessor using a second mapping function.

Claims 14, 19, and 24 have had similar limitations added.

Thus, all independent claims that were rejected have had limitations added that were deemed to be allowable.

Thus, all remaining claims are allowable, and allowance thereof is respectfully requested.

Allowable subject matter

Claims 11–13 and 22–23 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

For these reasons, and in view of the above amendment, this application is now considered to be in condition for allowance and such action is earnestly solicited.

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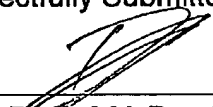
Conclusion

The Applicants believe all of Examiner's rejections have been overcome with respect to all remaining claims (as amended), and that the remaining claims are allowable. Action to that end is respectfully requested.

If the Examiner has any questions or comments that would advance the prosecution and allowance of this application, an email message to the undersigned at dov@inventek.com, or a telephone call to the undersigned at +1-510-547-3378 is requested.

Respectfully Submitted,

Feb 15, 2005
Date


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